INCH-POUND

MIL-R-18546/1G
15 May 2001
SUPERSEDING
MIL-R-18546/1F
22 April 1970

MILITARY SPECIFICATION

RESISTORS, FIXED, WIRE-WOUND (POWER TYPE, CHASSIS MOUNTED), STYLES RE60, RE65, RE70, AND RE75

INACTIVE FOR NEW DESIGN AFTER 22 APRIL 1970, USE MIL-PRF-39009/1 FOR CHARACTERISTIC G, AND MIL-PRF-39009/2 FOR CHARACTERISTIC N.

This specification is approved for use by all Department and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the requirements for styles RE60, RE65, RE70, and RE75 resistors.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in section 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document user are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comment (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be address to: DSCC-VAT, Post Office Box 3990, Columbus, Ohio 43216-5000, by using the Standardization Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 5905

SPECIFICATION

DEPARTMENT OF DEFENSE

MIL-PRF-18546 - Resistors, Fixed, Wire-Wound, (Power Type, Chassis Mounted), General Specification for.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENT

3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-18546.

3.2 Interface and physical dimension. Resistors shall meet the interface and physical dimension specified on figure 1 and as specified herein.

3.2.1 Weight. The maximum weight shall be as specified in table I.

TABLE I. Weight.

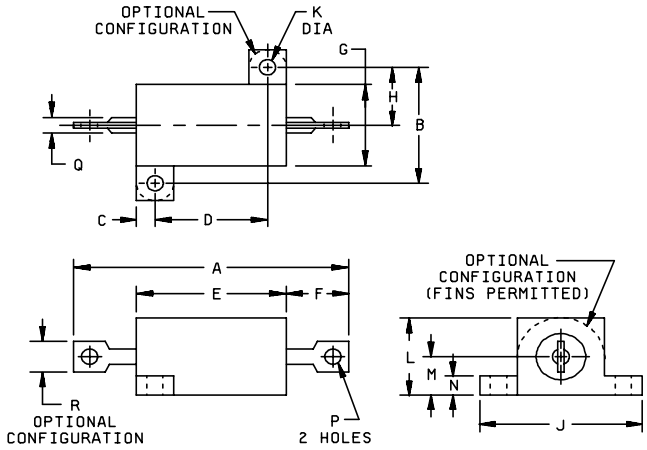
Style	Grams, (maximum)	
	Characteristic G	Characteristic N
RE60	3	3.3
RE65	8	8.8
RE70	15	16.5
RE75	32	35.0

3.3 Power rating. The power rating shall be as specified in table II, based on full load operation at an ambient temperature of 25°C, when mounted on the chassis specified in table VI.

TABLE II. Power rating.

Style	Power rating (watts)	
	Chassis mounted	Free air 1/
RE60	5	3
RE65	10	6
RE70	20	8
RE75	30	10

1/ Free air power ratings are listed for information only.



Style	A ±.062 (1.57)	B ±.010 (0.25)	C ±.031 (0.79)	D ±.010 (0.25)	E ±.062 (1.57)	F ±.062 (1.57)	G ±.062 (1.57)	H ±.031 (0.79)	J ±.031 (0.79)	K ±.005 (0.13)	L ±.031 (0.79)	M ±.062 (1.57)	N ±.031 (0.79)	P ±.005 (0.13)	Q min AWG	R min
RE60	1.125 (28.58)	0.490 (12.45)	0.078 (1.98)	0.444 (11.28)	0.600 (15.24)	0.266 (6.76)	0.334 (8.48)	0.245 (6.22)	0.646 (16.41)	0.093 (2.36)	0.320 (8.13)	0.133 (3.38)	0.065 (1.65)	0.050 (1.27)	16	0.085 (2.16)
RE65	1.375 (34.93)	0.625 (15.88)	0.094 (2.39)	0.562 (14.27)	0.750 (19.05)	0.312 (7.92)	0.438 (11.13)	0.312 (7.92)	0.812 (20.62)	0.094 (2.39)	0.406 (10.31)	0.203 (5.16)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)
RE70	1.938 (49.23)	0.781 (19.84)	0.172 (4.37)	0.719 (18.26)	1.062 (26.97)	0.438 (11.13)	0.531 (13.49)	0.391 (9.93)	1.094 (27.79)	0.125 (3.18)	0.562 (14.27)	0.281 (7.14)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)
RE75	2.781 (70.64)	0.844 (21.44)	0.188 (4.78)	1.562 (39.67)	1.938 (49.23)	0.438 (11.13)	0.594 (15.09)	0.422 (10.72)	1.156 (29.36)	0.125 (3.18)	0.625 (15.88)	0.312 (7.92)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)

NOTES:
1. All dimensions are in inches.
2. Metric equivalent (to the nearest .01 mm) are given for general information only and based upon 1 inch = 25.4 mm.
3. Millimeters are in parentheses.

FIGURE 1. Styles RE60, RE65, RE70, and RE75 resistors.

3.4 Resistance. The minimum and maximum nominal resistance values shall be as specified in table III.

TABLE III. Minimum and maximum nominal resistance values.

Style	Resistance values (Ohms)					
	Minimum		Maximum			
	Characteristic		Characteristic 1/		Characteristic 2/	
	G	N	G	N	G	N
RE60	0.10	1	665	332	3,320	1,650
RE65	0.10	1	1,100	549	5,620	2,800
RE70	0.10	1	2,210	1,100	12,100	6,040
RE75	0.10	1	8,060	4,020	39,200	19,600

1/ Based on use of 0.00175 inch nominal diameter wire.
2/ Based on use of 0.001 inch nominal diameter wire.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-18546, and as specified herein.

4.2 Terminal strength. The direct pull shall be as specified in table IV.

TABLE IV. Direct pull.

Style	Direct pull (pounds)
RE60	5 +0, -1/4
RE65	5 +0, -1/4
RE70	10 +0, -1/2
RE75	10 +0, -1/2

4.3 Dielectric withstanding voltage.

4.3.1 At atmospheric pressure. The magnitude of the test voltage shall be as specified in table V.

TABLE V. Dielectric withstanding voltages at atmospheric pressure.

Style	Dielectric withstanding test voltage (volts)
RE60	1,000
RE65	1,000
RE70	1,000
RE75	2,000

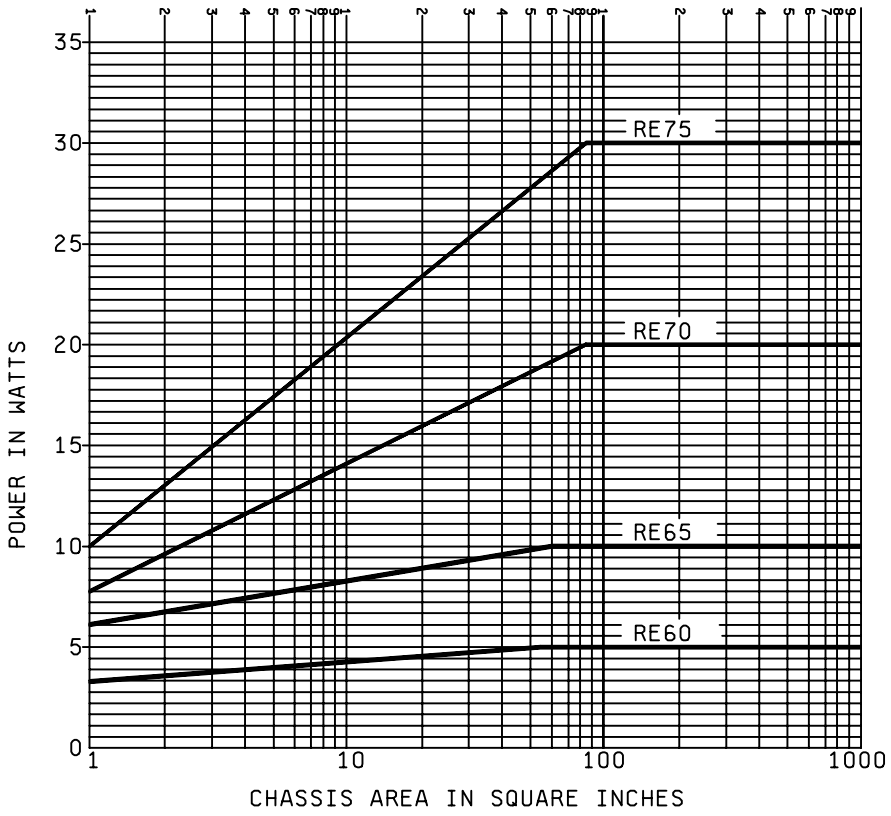
4.3.2 At reduced barometric pressure. The magnitude of the test voltage shall be 500 volts.

4.4 Chassis dimensions. The chassis dimensions shall be as specified in table VI.

TABLE VI. Chassis dimensions. 1/

Style	Length, width, and height	Thickness
RE60	6 X 4 X 2	0.04
RE65	6 X 4 X 2	0.04
RE70	7 X 5 X 2	0.04
RE75	7 X 5 X 2	0.04

1/ All dimension are given in inches.



NOTE:
The chassis derating curves are based on the full power ratings at an ambient temperature of 25°C. These curves are independent of the temperature derating curves.

FIGURE 2. Chassis area derating curves.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material is to be performed by DoD personnel, these personnel need to contract the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

6.1 Intended use. In addition tot he notes specified herein, the notes specified in MIL-PRF-18546 are applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification and the complete PIN (see 1.2.1).

b. Issue of DoDISS to cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1).

c. Packaging requirements (see 5.1).

6.3 Substitution data. The resistors specified herein are not for use in design after date of this specification. These resistors are suitable for use in design contracts effective prior to 22 April 1970, and for logistic support of existing military equipment. Resistors specified in MIL-PRF-39009 are preferred for design and regardless of failure rate designation are authorized as substitutes for the inactivated resistor of the same resistance and tolerance of this specification. Substitution for characteristic G and N are as follows:

MIL-R-18546/1		MIL-PRF-39009	
Style	Characteristic	Style	Specification sheet
RE60	G (Inductive)	RER60	MIL-PRF-39009/1
RE65	G (Inductive)	RER65	MIL-PRF-39009/1
RE70	G (Inductive)	RER70	MIL-PRF-39009/1
RE75	G (Inductive)	RER75	MIL-PRF-39009/1
RE60	N (Noninductive)	RER40	MIL-PRF-39009/2
RE65	N (Noninductive)	RER45	MIL-PRF-39009/2
RE70	N (Noninductive)	RER50	MIL-PRF-39009/2
RE75	N (Noninductive)	RER55	MIL-PRF-39009/2

6.4 Power rating (free air). The free air (resistor not mounted on a chassis) power rating is as listed in table II.

6.5 Chassis area derating curves. Figure 2 may be used for design information.

6.6 Interchangeability. Items in this specification are mutually interchangeable with items of the same style and characteristic procured under MIL-R-18546/1E.

6.7 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Army - CR
Navy - EC
Air Force - 11

Review activities:
Army - AR, AT, AV, CR4
Navy - AS, CG, MC, OS
Air Force - 19

Preparing activity:
DLA-CC

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